



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,886	04/05/2004	Christian E. Gruber	IVGN 178.1 CON	3859
65482 7590 04/16/2008 INVITROGEN CORPORATION C/O INTELLEVEATE P.O. BOX 52050 MINNEAPOLIS, MN 55402				
EXAMINER TUNG, JOYCE				
ART UNIT		PAPER NUMBER		
1637				
MAIL DATE		DELIVERY MODE		
04/16/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/816,886

Applicant(s)

GRUBER ET AL.

Examiner

Joyce Tung

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-123 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54-123 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

The applicant's response filed 1/22/08 to the Office action has been entered. Claims 54-123 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/08 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 54-123 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added language "whereby the cleaved cDNA molecule is released from the hapten-cDNA molecule complex and does not comprise the ligand portion ("the biotin moiety" in claim 68) of the primer- adapter nucleic acid molecule" in claims 54, 79, 92, and 107 does not have a support in the specification. Thus, it constitutes new matter.

4. Claims 54-123 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Huo (5,922,535, issued Jul. 13, 1999) in view of Chenchik et al. (5,962,271, issued Oct. 5, 1999).

Huo et al. includes the teaching of standard cDNA synthesis from mRNA (see column 5, lines 8-20). Huo et al. also disclose the advantageous use of a biotinylated primer in cDNA synthesis to facilitate attachment of synthesized cDNA to solid supports (column 5, lines 21-27; column 7, lines 51-60; column 11, lines 31-37; column 12, lines 9-24). Huo et al. also disclose the use a biotinylated primer comprising a rare restriction site, which primer sequence may be cleaved after cDNA synthesis with a restriction enzyme unlikely to cleave within any synthesized cDNA (see column 13, lines 17-46).

Huo et al. disclose several embodiments of the invention. One of the embodiments discloses that as depicted in Fig. 1, a biotinylated poly-T primer includes a rare restriction site at its 5' end, the primer is biotinylated either in the restriction recognition sequence or at the poly-T portion and after cleavage at least one biotinylated nucleotide is retained on 3' of the cleavage site (See column 13, lines 17-26). It is inherent in this teaching that the cleaved cDNA molecule is released and does not comprise a ligand portion of the primer-adaptor nucleic acid molecule (See 17 of Fig. 1). Moreover, Huo et al. also disclose that the cut site is filled in with biotinylated nucleotides (See column 13, lines 43-48). This teaching is inherent that the cleaved cDNA molecule does not comprise a ligand and the ligand is filled in after the cleavage. These teachings satisfy the newly added limitations.

While Huo et al. disclose the use of a biotinylated primer-adaptor comprising a rare restriction site, said primer-adaptor is used in a different manner than in the claimed methods; in

Huo et al., heteroduplex cDNAs are produced which are cleaved at points of variation. In other words, Huo et al. covers steps (a)-(c) of claim 54, for example, but not steps (e).

Chenchik et al. disclose the use of cDNA synthesis primers comprising rare restriction enzyme cutting sites to facilitate cloning of full-length synthesized cDNAs into cloning vectors (see column 9, lines 17-25 and column 11, lines 40-45).

One of ordinary skill in the art would have been motivated to use a biotinylated adapter-primer comprising a rare restriction enzyme cutting site in conventional cDNA synthesis and subsequent cloning because Huo et al. disclosed the benefit of biotinylated cDNA synthesis primers in attaching cDNA to a solid support, and Chenchik et al. disclosed the benefit of cDNA synthesis primers having rare restriction sites in subsequent cloning of full-length cDNA into vectors. In other words, the skilled artisan considering the references as a whole would have combined the noted teachings to achieve the expected combined benefits of biotinylated primers (Huo et al.) and primers containing rare restriction sites (Chenchik et al.) in conventional cDNA synthesis. It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to carry out the claimed methods.

Summary

5. No claims are allowed.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (571) 272-0790. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth R Horlick/
Primary Examiner, Art Unit 1637

Joyce Tung
April 11, 2008